

### **Remarks**

In view of the above amendments and the following remarks, reconsideration and further examination are requested.

The Applicants' representative would like to thank the Examiner for conducting the personal interview on July 27, 2004 with regard to the present application. During the interview, the Office Action of March 16, 2004 was discussed. Specifically, independent claim 19 was discussed with regard to Endoh (US 6,234,787), which was used in rejecting claim 19. Further, language similar to that already contained in claim 19 was proposed to be placed in independent claims 1, 4 and 22. In addition, claim 10 was discussed with respect to Endoh and Pritchard (US 5,462,429). Agreement was not reached during the interview.

Claims 19-21 and 27 have been rejected under 35 U.S.C. §102(e) as being anticipated by Endoh (US 6,234,787). Claims 1-3 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Endoh in view of Holmer (US 4,547,148). Claims 4-9 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Endoh in view of Lipp (US 4,857,075). Claims 10, 12 and 13 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Endoh in view of Pritchard (US 5,462,429). Claim 22 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Endoh in view of Pillard (US 3,885,919).

Claims 1, 4, 10, 19 and 22 have been amended so as to further distinguish these claims from the references relied upon in the above-mentioned rejections.

The above-mentioned rejections are submitted to be inapplicable to the claims for the following reasons.

Claim 19 is patentable over Endoh, since claim 19 recites a waste gas treatment system including, in part, a burner part that has a cylindrical member having a side wall, being closed at a top thereof and having an opening at a bottom thereof, the cylindrical member also having a waste gas inlet in the top thereof and an air nozzle at a predetermined position on the side wall thereof, the cylindrical member further having an auxiliary burning gas nozzle in the side wall in a vicinity of the opening, the air nozzle and the auxiliary burning gas nozzle extend at predetermined angles to a tangential direction to the cylindrical member to blow a swirling air flow and a swirling auxiliary burning gas flow downward against the combustion flames formed downward below the opening.

Endoh fails to disclose or suggest a burner part having an air nozzle and an auxiliary burning gas nozzle as recited in claim 19.

Endoh discloses a detoxifying apparatus including a double walled combustion chamber 1 including an outer barrel 11 and a porous inner barrel 12. A burner 2 is located in the top of the combustion chamber 1, and an igniting pilot burner 3 and a gas introducing nozzle 4 located opposite to each other pass through the outer barrel 11. The igniting pilot burner 3 also passes through the inner barrel 12 and supplies propane gas to the area of the combustion chamber 1 surrounded by the inner barrel 12. On the other hand, the gas introduction nozzle supplies compressed air to the space between the outer barrel 11 and the inner barrel 12. However, since the inner barrel 12 is porous, the compressed air is able to pass through the inner barrel 12 and enter the area of the combustion chamber 1 surrounded by the inner barrel 12. The burner 2 includes a raw gas channel 2a, a lift gas channel 2b, a combustion air channel 2c, and a secondary air channel 2d positioned concentrically around each other. Further, the combustion chamber 1 has an opening at a bottom thereof. (See column 3, line 1 - column 4, line 10 and Figures 1-4).

Based on the above discussion of Endoh, it is apparent that all of the features are with respect to the combustion chamber 1 and not a burner part as recited in claim 19. Further, it is apparent that the combustion air channel 2c and the gas introducing nozzle 4, which provide air to the combustion chamber 1, are located at the top of the combustion chamber 1 and the side of the combustion chamber 1, respectively. Therefore, the combustion air channel 2c is only capable of blowing air straight down; and the gas introducing nozzle 4 is only capable of causing air to pass through the porous wall 12 in a concentric manner. Therefore, neither the combustion air channel 2c, nor the gas introduction nozzle 4, extend at a predetermined angle to a tangential direction to the combustion chamber 1 to blow a swirling air flow as is recited in claim 19. In addition, it is apparent that the igniting pilot burner 3 is arranged such that it supplies the propane gas directly toward the center of the combustion chamber 1 and does not extend at a predetermined angle to a tangential direction to the combustion chamber 1 to blow a swirling auxiliary burning gas flow as is recited in claim 19. As a result, Endoh fails to disclose or suggest the present invention as recited in claim 19.

In addition, (1) Holmer, (2) Pritchard, (3) Pillard, and (4) Lipp are relied upon as disclosing (1) "Fiberfrax" ceramic cloth, (2) a mechanical wiper, (3) a waste gas treatment system where waste

gas is fed into chambers that gradually increase, and (4) a water jacket, respectively. However, none of these references discloses or suggests the above-discussed features of claim 19.

Claims 1, 4 and 22 are patentable over the references for similar reasons as set forth above in support of claim 19. That is, claims 1, 4 and 22, similar to claim 19, each recite, in part, that a burner part has a cylindrical member having a side wall, being closed at a top thereof and having an opening at a bottom thereof, the cylindrical member also having a waste gas inlet in the top thereof and an air nozzle at a predetermined position on the side wall thereof, the cylindrical member further having an auxiliary burning gas nozzle in the side wall in a vicinity of the opening, wherein the air nozzle and the auxiliary burning gas nozzle extend at predetermined angles to a tangential direction to the cylindrical member to blow a swirling air flow and a swirling auxiliary burning gas flow downward against the combustion flames formed downward below the opening, which features are not disclosed or suggested in the references.

Claim 10 is patentable over the combination of Endoh and Pritchard, since claim 10 recites a waste gas treatment system having, in part, a dust remover provided to remove dust from at least one of an inner wall of a burner part and an inner wall of a combustion chamber or to prevent adhesion of dust thereto, wherein the dust remover comprises a dust scraping plate secured to a shaft so as to be moved vertically during operation in the at least one of the burner part and the combustion chamber. The combination of Endoh and Pritchard fails to disclose or suggest a dust remover as recited in claim 10.

As indicated in the rejection, Endoh fails to disclose or suggest a dust remover. As a result, Pritchard is relied on as disclosing this feature.

Pritchard discloses a combustion chamber 2 having a wiper rod 40 secured between two rods 36 and 38 to a rod 30 that passes through the center of the combustion chamber 2. When the rod 30 is rotated, the wiper rod 40 is also rotated and can remove combustion products from the inner wall of the combustion chamber 2. (See column 6, lines 23-67 and the Figure).

The rejection states that Pritchard discloses that the wiper rod 40 can be configured to move vertically. However, Pritchard does not disclose this. Instead, Pritchard discloses that the although the combustion chamber 2 is shown as being vertical, the combustion chamber 2 can be orientated in any position, including horizontal. (See column 6, lines 55-67). In all cases, the wiper rod 40 is

only disclosed as being able to rotate and cannot move vertically as suggested in the rejection. As a result, the combination of Endoh and Pritchard fails to disclose or suggest the present invention as recited in claim 10.


Further, (1) Holmer, (2) Lipp and (3) Pillard are relied upon as disclosing (1) "Fiberfrax" ceramic cloth, (2) a water jacket, and (3) a waste gas treatment system where waste gas is fed into chambers that gradually increase, respectively. However, none of these references discloses or suggests a dust remover as recited in claim 10.

Because of the above mentioned distinctions, it is believed clear that claims 1-10, 12, 13, 19-23 and 27 are patentable over the references relied upon in the rejections. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 1-10, 12, 13, 19-23 and 27. Therefore, it is submitted that claims 1-10, 12, 13, 19-23 and 27 are clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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